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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,078	12/16/2003	Jeremie Pescatore	14XZ126466	5176
23413	7590	04/08/2005	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			YUN, JURIE	
			ART UNIT	PAPER NUMBER
			2882	

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/737,078	PESCATORE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jurie Yun	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/16/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 10 is objected to because of the following informalities: it is identical to claim 9. Appropriate correction is required.
2. Claims 14-17 are objected to because of the following informalities: there is lack of antecedent basis for "the interpolation law." Appropriate correction is required.
3. Claim 36 is objected to because of the following informalities: in line 12, there is a period after "positions." Appropriate correction is required.
4. Claim 38 is objected to because of the following informalities: there is no period at the end of the claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-13 and 36-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Zylka et al. (USPN 6,379,043 B1).
7. With respect to claims 1 and 36-38, Zylka et al. disclose (column 2, lines 45+) a process for calibration of a radiological imaging device comprising: moving the device with respect to a calibration object and performing a series of acquisitions, each acquisition being associated to a calibration position of the device; based on the acquisitions performed, determining the projection parameters associated to each

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calibration position of the device; for an additional position that has not been taken by the device during the acquisition step, determining the projection parameter values associated to this additional position according to the parameters associated to the calibration positions. Zylka et al. also disclose (column 4, lines 24-31) an acquisition phase comprising moving the device with respect to an object to be imaged and carrying out a series of acquisitions, each acquisition being associated to a calibration position or an additional position of the means for emitting radiation, and reconstructing a three-dimensional model of the object from the images acquired and the associated projection parameters, determined during the calibration phase.

With respect to claim 2, the projection parameters comprise geometrical parameters that are characteristic of the positioning of the device in space (column 2, lines 51+).

With respect to claims 3 and 4, the projection parameters comprise geometrical parameters that are characteristic of means for emitting radiation and means for acquiring an image (column 2, lines 51+).

With respect to claims 5-8, the projection parameters include coefficients of a global matrix that defines the projection of an object in the three dimensional space in a plane of the means for acquiring an image (column 5, lines 52+).

With respect to claims 9-13, the projection parameters associated to the additional position are determined by an interpolation or extrapolation law of the projection parameters associated to the calibration positions (column 3, lines 54+).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 14-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zylka et al. (USPN 6,379,043 B1) as applied to claim 1 above.

10. With respect to claims 14-18, Zylka et al. do not disclose the interpolation law is linear, polynomial or rational, but all of these are well known to those of ordinary skill in the art, and it would have been obvious that where Zylka et al. disclose interpolation (column 3, lines 54+), one of linear, polynomial or rational interpolation is implied.

11. With respect to claims 19-26, Zylka et al. do not specifically disclose the projection parameters associated to the additional position are determined by a combination of the projection parameters associated to the calibration positions of the device closest to the additional position, the number of positions taken into account being less than five. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the projection parameters associated to the calibration positions of the device closest to the additional position, because these would have been the most accurate and reliable. As to the number of positions taken into account being equal to two, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the optimum number of positions to use through experimentation. "[W]here the general conditions of a claim

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are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

12. With respect to claims 27-35, Zylka et al. do not specifically disclose wherein during the step where the projection parameters associated to each device calibration position are determined, some of the projection parameters are defined by a law dependent on information known beforehand and/or other geometrical projection parameters. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to do this as most parameters used are dependent on any and all information known beforehand. When interpolating to determine unknown parameters, any and all useful information or data is typically used to ensure most accurate results.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Navab (USPN 5,963,612) discloses an apparatus for c-arm calibration for 3d reconstruction in an imaging system utilizing planar transformation. Launay et al. (USPN 6,652,142 B2) disclose a method of calibration for reconstructing 3d models from images obtained by tomography.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Yun whose telephone number is 571 272-2497. The examiner can normally be reached on Monday-Friday 8:30-5:00pm.

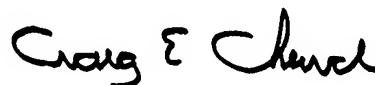
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jurie Yun  
March 29, 2005



Craig E. Church  
Primary Examiner